

STEERING SHAFT

Refer to **Figure 58**.

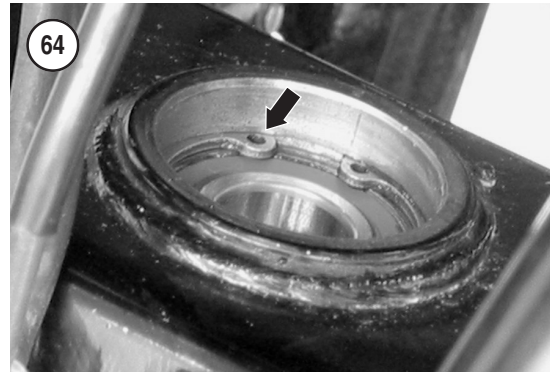
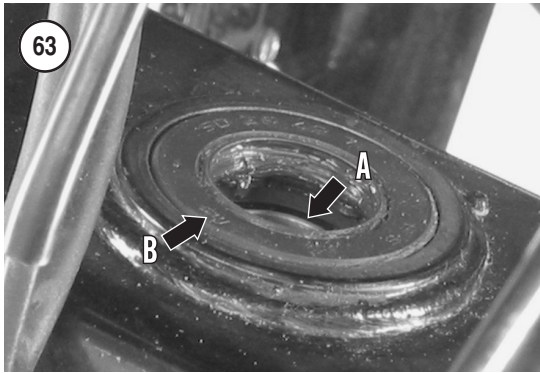
Removal

1. Remove the front fender and inner fender panels (Chapter Fifteen).
2. Remove both front wheels as described in this chapter.
3. Remove the lower handlebar holder nuts and washers (**Figure 59**). Disengage the wires and cables from the retaining guides and clamps. Move the handlebar assembly out of the way while being careful not to damage the brake hose, cables or wiring harness.
4. Detach both inner tie rod ends (A, **Figure 60**) from the steering shaft as described in *Tie Rods* in this chapter.
5. Remove the cotter pin and nut at the bottom of the steering shaft (B, **Figure 60**).
6. Remove the steering shaft holder bolts (A, **Figure 61**) and holder assembly (B).
7. Remove the steering shaft and steering arm assembly from the frame.

Inspection

Replace parts that are excessively worn or damaged as described in this section.

1. Clean and dry all parts.
2. Remove the set ring (**Figure 62**) and the steering shaft bushing from the steering shaft. Check both parts for excessive wear or damage.
3. Check the steering shaft for bending and spline or thread damage.
4. Examine the cotter pin hole at the end of the steering shaft. Make sure there are no fractures or cracks leading out toward the end of the steering shaft. If any cracks are present, replace the steering shaft.
5. Inspect the steering arm for cracks, spline damage or other damage.
6. Check the bushing for severe wear or damage.
7. Inspect the steering bearing (A, **Figure 63**) by turning the inner race by hand. Replace the bearing if it turns roughly or has excessive play.
8. Inspect the dust seals (B, **Figure 63**) for severe wear or other damage.



9. Replace the dust seals and bearing as described in the following procedure.

Steering Shaft Dust Seal and Bearing Replacement

The steering shaft bearing is pressed into the frame. Do not remove the bearing unless it requires replacement.

1. Remove the dust seals from both sides of the bearing.

NOTE

When only replacing the dust seals, go to Step 9.

2. Remove the snap ring (**Figure 64**) from the bearing bore groove.

3. Before removing the bearing, make sure its outer race is a tight fit in the bearing bore. If the bearing is loose, check the bearing bore for cracks or other damage.

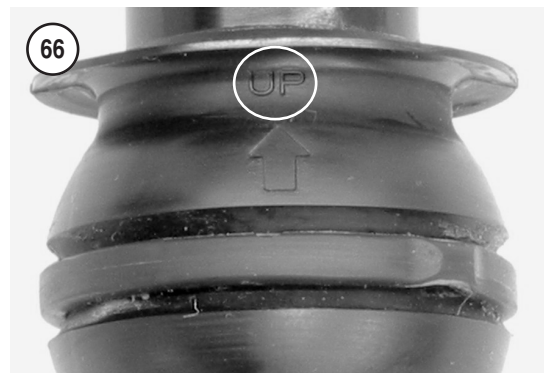
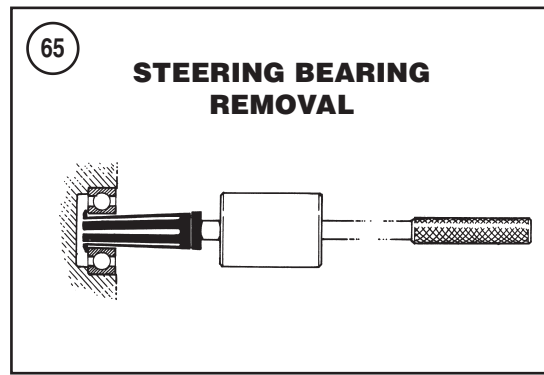
4. Pull the bearing up and out of the frame with a bearing removal tool (**Figure 65**).

5. Clean the bearing bore and check it for cracks or other damage.

6. Install the new bearing so the marked side faces up.

7. Tap the bearing squarely into place; tap on the outer race only. Use a socket or bearing driver that matches the outer race diameter. Do not tap on the inner race or the bearing might be damaged. Install the bearing so it is fully seated below the snap ring groove in the bearing bore.

8. Install the snap ring into the bearing bore groove. Make sure the snap ring seats in the groove completely.



9. Pack the lips of the new dust seals with grease, then install each dust seal so its closed side faces out.

Installation

1. Lubricate the steering shaft bushing with grease and install it onto the steering shaft so the UP mark (**Figure 66**) faces toward the handlebar. Install the set ring (**Figure 62**) into the bushing groove.

2. Install the steering shaft into the frame



3. Install the inner (C, **Figure 61**) and outer (B) steering shaft holders around the bushing and install the bolts (A). Tighten the steering shaft holder bolts to 32 N•m (24 ft.-lb.).
4. Lubricate the steering shaft splines with grease.
5. Align the master spline on the steering shaft (**Figure 67**) with the master spline on the steering arm splines (**Figure 68**).
6. Lubricate the steering shaft nut flange and threads with grease. Install the steering shaft nut (B, **Figure 60**) and washer, and tighten to 108 N•m (80 ft.-lb.). Secure the nut with a new cotter pin and bend the ends over completely.

7. Reattach both inner tie rod ends to the steering shaft (A, **Figure 60**) as described in *Tie Rods* in this chapter.
8. Install the handlebar assembly onto the steering shaft. Check the routing of the brake hose, cables and wiring harness.
9. Install new handlebar lower holder locknuts (**Figure 59**) and tighten them to 39 N•m (29 ft.-lb.).
10. Install both front wheels as described in this chapter.
11. Install the front fender and inner fender panels (Chapter Fifteen).
12. Make sure the handlebar turns properly and that the throttle returns to its closed position after releasing it.

Table 1 STEERING AND FRONT SUSPENSION SPECIFICATIONS

Front suspension type	Double wish-bone
Front wheel travel	150 mm (5.90 in.)
Front damper type	Double tube
Toe-in/out (TE/TM)	*
Toe-out (FE/FM)	3-33 mm (0.12-1.30 in.)
Caster angle	
FE/FM	4°
TE/TM	7°
Camber angle	
FE/FM	0.1°
TE/TM	0°
Trail length	
FE/FM	17 mm (0.7 in.)
TE/TM	31 mm (1.2 in.)
Tie rod distance between ball joints	
FE/FM	345-347 mm (13.58-13.66 in.)
TE/TM	354-356 mm (13.94-14.02 in.)
*Toe-in/out on models TE and TM may range from 18 mm (0.71 in.) toe-in to 12 mm (0.47 in.) toe-out.	

Table 2 TIRE AND WHEEL SPECIFICATIONS (FE/FM)

Tires	
Type	Bridgestone Dirt Hook
Size	
Front	AT24 × 8-12
Rear	AT24 × 9-11
Wheels	
Front rim size	12 × 6.0 AT
Rear rim size	11 × 7.0 AT

Table 3 TIRE AND WHEEL SPECIFICATIONS (TE/TM)

Tires	
Type	Goodyear Tracker CL
Size	
Front	AT24 × 8-12
Rear	AT25 × 11-10
Wheels	
Front rim size	12 × 6.0 AT
Rear rim size	10 × 8.5 AT

Table 4 TIRE INFLATION PRESSURE

Front and rear tires psi (kPa)	
TRX350TE/TM	
Normal pressure	2.9 (20)
Minimum pressure	2.5 (17)
Maximum pressure	3.3 (23)
TRX350FE/FM	
Normal pressure	3.6 (24.8)
Minimum pressure	3.2 (22)
Maximum pressure	4.0 (27.6)

Table 5 FRONT SUSPENSION AND STEERING TORQUE SPECIFICATIONS

	N•m	in.-lb.	ft.-lb.
Axle nut	78	—	58
Ball joint nuts	29	—	22
Brake drum mounting bolts	10	88	—
Brake hose clamp	12	106	—
Control arm locknuts	44	—	33
Damper rod locknut	38	—	28
Handlebar lower holder locknuts	39	—	29
Shock absorber locknuts	30	—	22
Steering shaft holder bolts	32	—	24
Steering shaft nut	108	—	80
Throttle case cover screws	2	18	—
Tie rod nuts	54	—	40
Wheel nuts	64	—	47

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